



Fig. 1

Monkey IPM 150

001 ATTTTCTTTCCGAACGGGGTTAAAGTCTCTGTCACAGGAATCCATGAACAGATTTTAGCCAGTCTCAAGCTTATTATAGATTGAGAGTGTGTCAGGAAG  
I F F P N G V K V C P Q E S M K Q I L A S L Q A Y Y R L R V C Q E  
101 CAGTATGGGAAGCATATCGGATCTTTCTGGATCCCTGACACAGGGGAATATCAGGACTGGGTCAAGCTTCTGCGCAGCAGGACCTTCTGCTCTT  
A V W E A Y R I F L D R I P D T G E Y Q D W V S F C Q Q E T F C L F  
201 TGACATGGGACAAACTTCAGCAATTCACAGGAGCACCTGGATCTTCTCCAGCAGAGATAAACAAGAGAGATTTCCCTGAGAGAAAGATGAATATCT  
D I G Q N F S N S Q E H L D L Q Q R I K Q R S F P E R K D E V S  
301 ACAGAGAAGACATTTGGGAGAGCCCTAGTGAACCAATTTGTTGTTCAACAGATGTTGCCAGCGTCTCACTTGGGCCCTTTCCCTGTCACTCTCTGATGACACCC  
T E K T L G E P S E T I V V S T D V A S V S L G P F V T P D D T  
401 TCCTCAATGAATTTCTCGATAATGCACTCAACGACACCAAGATGCCCTACACAGAAAGAGAACTCGCTGTGTCTGAGGAGCGGTGGAGCT  
L L N E I L D N A L N D T K M P T T E R E T E L A V S E E Q R V E L  
501 CAGCATCTCTCTGATAAACAGAGGTTCAAGGCAGAGCTCGCTGACTCTCAGTCA  
S I S L I N Q R F K A E L A D S Q S

Fig. 2

Human IPM 150

001 TAAACCAAGAAGGTTATCCTCAATCATCTGGTATCAATATATAATTATTTTCTTTTGTACTTTTAAATGAGATTGAGGTTGTTCTGTGATTGTTA  
101 TCAGAATTACCATGCACAAAAGCCAGAATGTATTGGAACTAGAAGAGCTATTTTGTGTTTTTGGATTTTCTCCAAGTTCAAGGAACTAAAGATATCT  
M Y L E T R R A I F V F W I F L Q V Q G T K D I

201 CCATTAACATATACCATTCTGAACTAAAGACATAGACAATCCCCAAGAAATGAAACAATGAAAGTACTGAAAAATGTACAAAATGTCAACTATGAG  
S I N I Y H S E T K D I D N P P R N E T T E S T E K M Y K M S T M R

301 ACGAATATTGATTTGGCAAAGCATCGAACAAAAGATCCGCATTTTCCCAACGGGGGTAAAGTCTGTCCACAGGAATCCATGAAACAGATTTTAGAC  
R I F D L A K H R T K R S A F F P T G V K V C P Q E S M K Q I L D

401 AGTCTTCAAGCTTATTATAGATTGAGAGTGTGTCAGGAAGCAGTATGGGAAGCATATCGGATCTTTCTGGATCGCATCCCTGACACAGGGGAATATCAGG  
S L Q A Y Y R L R V C Q E A V W E A Y R I F L D R I P D T G E Y Q

501 ACTGGGTCAGCATCTGCCAGCAGGAGACCTTCTGCCTCTTTGACATTGGAAAAAATCTCAGCAATTTCCAGGAGCAGCTGGATCTTCTCCAGCAGAGAAT  
D W V S I C Q Q E T F C L F D I G K N F S N S Q E H L D L L Q Q R I

601 AAAACAGAGAAGTTTCCCTGACAGAAAAGATGAAATATCTGCAGAGAAGACATTGGGAGAGCCTGGTGAACCATTTGTCATTTCAACAGATGTTGCCAAC  
K Q R S F P D R K D E I S A E K T L G E P G E T I V I S T D V A N

701 GTCTCACTTGGGCTTTCCCTCTCACTCTGATGACACCCTCTCAATGAAATCTCGATAATACACTCAACGACACCAAGATGCCTACAACAGAAAGAG  
V S L G P F P L T P D D T L L N E I L D N T L N D T K M P T T E R

801 AAACAGAATTCGCTGTGTGGAGGAGCAGAGGGTGGAGCTCAGCGTCTCTCTGGTAAACCAGAAGTTCAAGGCAGAGCTCGCTGACTCCAGTCCCATATA  
E T E F A V L E E Q R V E L S V S L V N Q K F K A E L A D S Q S P Y

901 TTACCAGGAGCTAGCAGGAAAGTCCCAACTTCAGATGCAAAAGATATTTAAGAACTTCCAGGATTCAAAAAAATCCATGTGTAGGATTTAGACCAAAG  
Y Q E L A G K S Q L Q M Q K I F K K L P G F K K I H V L G F R P K

1001 AAAGAAAAAGATGGCTCAAGCTCCACAGAGATGCAACTTACGCCATCTTTAAGAGACACAGTGCAGAAGCAAAAAGCCCTGCAAGTGACCTCTGTCTT  
K E K D G S S S T E M Q L T A I F K R H S A E A K S P A S D L L S

1101 TTGATTCCAACAAAATTGAAAGTGAGGAAGTCTATCATGGAACCATGGAGGAGGACAAGCAACCAGAAATCTATCTCACAGCTACAGACCTCAAAGGCT  
F D S N K I E S E E V Y H G T M E E D K Q P E I Y L T A T D L K R L

1201 GATCAGCAAAGCACTAGAGGAAGAACAATCTTTGGATGTGGGACAATTCAGTTCACTGATGAAATGTCTGGATCACTGCCAGCCTTTGGTCTGACACC  
I S K A L E E E Q S L D V G T I Q F T D E I A G S L P A F G P D T

1301 CAATCAGAGCTGCCCACATCTTTTGTGTTATAACAGAGGATGCTACTTTGAGTCCAGAATCTCTCTGTTGAACCCAGCTTGAGACAGTGGACGGAG  
Q S E L P T S F A V I T E D A T L S P E L P P V E P Q L E T V D G

1401 CAGAGCATGGTCTACCTGACACTTCTTGGTCTCCACCTGCTATGGCCTCTACCTCCCTGTGAGAAGCTCCACCTTTCTTTATGGCATCAAGCATCTTCTC  
A E H G L P D T S W S P P A M A S T S L S E A P P F F M A S S I F S

1501 TCTGACTGATCAAGGCACCACAGATACAATGGCCACTGACCAGACAATGCTAGTACCAGGGCTCACCATCCCACAGTGAATTATCTGCAATCAGCCAA  
L T D Q G T T D T M A T D Q T M L V P G L T I P T S D Y S A I S Q

1601 CTGGCTCTGGGAATTCACATCCACCTGCATCTTCAGATGACAGCCGATCAAGTGCAGGTGGCGAAGATATGGTCAGACACCTAGATGAAATGGATCTGT  
L A L G I S H P P A S S D D S R S S A G G E D M V R H L D E M D L

1701 CTGACACTCTGCCCATCTGAGGTACCAGAGCTCAGCGAATATGTTTCTGTCCAGATCATTTCTTGGAGGATACCACTCTGTCTCAGCTTTACAGTA  
S D T P A P S E V P E L S E Y V S V P D H F L E D T T P V S A L Q Y

1801 TATCACCAGTGTCTATGACCATTGCCCCCAAGGGCCGAGAGCTGGTAGTGTCTTCACTCTGCGTGTGCTAACATGGCCTTCTCCAACGACCTGTTT  
I T T S S M T I A P K G R E L V V F F S L R V A N M A F S N D L F

1901 AACAGAGCTCTCTGGAGTACCGAGCTCTGGAGCAACAATTCACACAGCTGCTGGTTCCATATCTACGATCCAATCTTACAGGATTTAAGCAACTTGAAA  
N K S S L E Y R A L E Q Q F T Q L L V P Y L R S N L T G F K Q L E

2001 TACTTAACTTCAGAAACGGGAGTGTGATTGTGAATAGCAAAATGAAGTTTGCTAAGTCTGTGCCGTATAACCTCACCAAGGCTGTGCACGGGGTCTTGG  
I L N F R N G S V I V N S K M K F A K S V P Y N L T K A V H G V L E

2101 GGATTTTCTGTTCTGCTGCAGCCCAACAATCTGGAATAGACAGCTACTCTCTCAACATTGAACCAGCTGATCAAGCAGATCCCTGCAAGTTCCTG  
D F R S A A A Q Q L H L E I D S Y S L N I E P A D Q A D P C K F L

2201 GCCTGCGGCGAATTTGCCCAATGTGTAAAGAACGAACGAGTGGAGGAGTGTGCTGCAAACCAGGATATGACAGCCAGGGGAGCCTGGACGGTC  
A C G E F A Q C V K N E R T E E A E C R C K P G Y D S Q G S L D G

2301 TGGAAACCAGGCTCTGTGGCCTGGCACAAGGAATGGAGGTCCTCCAGGAAAGGAGCTCCATGCGGTTCCAGATCACTCTGAAAATCAAGCATACAA  
L E P G L C G L A Q R N A R S S R E R E L H A V P D H S E N Q A Y K

2401 AACTAGTGTAAAGTTCCAAATCAACAAAATAACAAGGTAATCAGTAAAGAAATCTGAATTACTGACCGTAGAATATGAAGAATTTAACCATCAAG  
T S V K S S K I N K I T R STOP

2501 ATTGGGAAGGAAATTAAGAACTGAAAATGTACAATTATCACTTAGGCTATCTCAAGAGAGATGATTGCTTCTCAAGGAAATGGAGACAGGCATATTC  
2601 ATGGGTCAATCAAAATCCAGACATACAGTCAACACTGAGAATCAGCACACCATATTTCAAATATAGAAGAGTCATGTACTTGGCAACCAGTAAATTCG  
2701 AAAAAAAGACACTTACTTATTATTAACCCCAATGCAATCAGCGAAACATATTTTACTATTTCTTGGATGATAGTCAAAATGATCATAAGCCAGGTT  
2801 TGCTTCCACCTTCCCTGAAAATTTTACTCAGAGATCATTTGCAACAAGCATAGCTTACTTATTGTTTAGGGACTGAACAATTTATTGGGAAGCAAACTCT  
2901 TTATATGCTAGAAAGTACATTTAAAGATGACTACTTACGAGGAGATGCAGGTCTCTTAAACGCATGAATGTATGTAGTGTAGGCACTGTAGTGA  
3001 GTGTATATATGCTCCACACTACGTCGTATAAACACAAACCTCAGTATTCAGTTATTAGGCACTAGTTTTATACGCAACTACTGCTTACATAGTAGACT  
3101 GTTTTGTGCAATAATCTTTGAATTGTTCTTTAAAGAACTGAGGTTTCAGATACATACCATGGAATAATCTTACTTTTCTGTTACTACACAAAGC  
3201 TATTTTAAAGAAGATGCTATGTTGGGAGAAGGGCGAAGTTGTACTATATGACATAATCAAT

Fig. 3

00100200300400500600700800901001100120013001400150016001700180019002000210022002300240025002600270028002900300031003200

## Human IPM 200

001 CGGGYWAYTTTGAAGGACAACCATTTTCTTTCCGCTAATTTATAATGGTTTTGAAGTGGTTGTTTCATTCTCAAACATAGACTTTTAAATGTTAGGTCT  
101 TTCCTATAACTCTTTGTTATTGGAAGTTTCAAGGATTGGACACTCAATTAAGGATTCTGTCTCTCCTCATTCTTGGTTTTGGCCCAATGATTATG  
M I M

201 TTTCTCTTTTGGGAAGATTCTCTGGGTATTTTGATATTTGTCCTGATAGAAGGAGACTTTCCATCATTAACAGCACAAACCTACTTATCTATAGAGG  
F P L F G K I S L G I L I F V L I E G D F P S L T A Q T Y L S I E

301 AGATCCAAGAACCAAGAGTGCAGTTTCTTTCTCTGCTGAAGAATCAACAGACCTTTCTCTAGCTACCAAAAAGAAACAGCCTCTGGACCGCAGAGA  
E I Q E P K S A V S F L L P E E S T D L S L A T K K K Q P L D R R E

401 AACTGAAAGACAGTGGTTAATCAGAAGGCGGAGATCTATTCTGTTTCTAATGGAGTGAATCTGCCCAGATGAAAGTGTGACAGAGCTGTGGCAAAT  
T E R Q W L I R R R R S I L F P N G V K I C P D E S V A E A V A N

501 CATGTGAAGTATTTTAAAGTCCGAGTGTGTGAGGAGCTGTCTGGGAAGCCTTCAGGACTTTTGGGATCGACTTCTGGGCGTGAGGAATATCATTACT  
H V K Y F K V R V C Q E A V W E A F R T F W D R L P G R E E Y H Y

601 GGATGAATTTGTGTGAGGATGGAGTCAAGTATATTTGAAATGGGCACAAATTTAGTGAATCTGTGGAACATAGAAGCTTAATCATGAAGAACTGAC  
W M N L C E D G V T S I F E M G T N F S E S V E H R S L I M K K L T

701 TTATGCAAAGGAACTGTAAGCAGCTCTGAAGTGTCTTCTCCAGTTCCTGTTGGTGATACTTCAACATTGGGAGACACTACTCTCAGTGTTCACATCCA  
Y A K E T V S S S E L S S P V P V G D T S T L G D T T L S V P H P

801 GAGGTGGACGCTATGAAGGTGCCTCAGAGAGCAGCTTGGAAAGGCCAGAGGAGAGTATTAGCAATGAAATTGAGAATGTGATAGAAGAAGCCACAAAC  
E V D A Y E G A S E S S L E R P E E S I S N E I E N V I E E A T K

901 CAGCAGGTGAACAGATTGCAGAAATTCAGTATCCACCTTTTGGGGAAGCAGTACAGGGAAGAACTACAGGATTCTCCAGCTTTACCACCAGCACCTTGA  
P A G E Q I A E F S I H L L G K Q Y R E E L Q D S S S F H H Q H L E

1001 AGAAGAATTTATTTTCAGAGGTGAAATGCATTTACTGGGTACCAGGCTACAAGGAAATTCGTGTAATTTAGGTCCCCAAGGAAATGACAGT  
E E F I S E V E N A F T G L P G Y K E I R V L E F R S P K E N D S

1101 GGCCTAGATGTTTACTATGCAGTTACCTTCAATGGTGAGGCCATCAGCAATACCACCTGGGACCTCATTAGCCTTCACTCCAACAAGGTGGAAAACCATG  
G V D V Y Y A V T F N G E A I S N T T W D L I S L H S N K V E N H

1201 GCCTTGTGGAACCTGGATGATAAACCCTGTTGTTTATACAATCAGTAACCTTCAGAGATTATATGCTGAGACATTGCAGCAGAATTTTGTCTGGGGAA  
G L V E L D D K P T V V Y T I S N F R D Y I A E T L Q Q N F L L G N

1301 CTCTTCCTTGAATCCAGATCCTGATTCCCTGCAGCTTATCAATGTGAGAGGAGTTTTCGCTCACCAAACTGAAGATCTAGTTTGAACACCCAAAGTTCA  
S S L N P D P D S L Q L I N V R G V L R H Q T E D L V W N T Q S S

1401 AGTCTTCAGGCAACGCCGTCTATCTGAGTAACTTCAAGCTGCATGGCCCTCAGCAGATGAATCCATCACCAGCAGTATTCCACCACTTGATT  
S L Q A T P S S I L D N T F Q A A W P S A D E S I T S S I P P L D

1501 TCAGTCTGCTCCTCCCTCAGCCACTGGCAGGGAAGTCTGGTCAAGAACTCTTGGGTGATTAGTGTCTACACACAAATAGCCTTTCCCTCGAAGAT  
F S S G P P S A T G R E L W S E S P L G D L V S T H K L A F P S K M

1601 GGGCCTCAGCTCTTCCCCAGAGGTTTGAAGGTTAGCAGCTTGAATCTTCTGTCACCCCGGAGTGTCTCAGACTGGCTTGCCTGTGGCTTCTGAG  
G L S S S P E V L E V S S L T L H S V T P A V L Q T G L P V A S E

1701 GAAAGGACTTCTGGATCTCACTTGGTAGAAGATGGATTAGCCAATGTTGAAGAGTCAGAAGATTTCTTTCTATTGATTTCATTGCCTTCAAGTTCATTCA  
E R T S G S H L V E D G L A N V E E S E D F L S I D S L P S S S F

1801 CTCAACCTGTGCCAAAAGAAACAATACCATCCATGGAAGACTCTGATGTGCTCTAACATCTTACCATATCTGACCTCTTCTATACCTTTTGGCTTGA  
T Q P V P K E T I P S M E D S D V S L T S S P Y L T S S I P F G L D

1901 CTCCTTGACCTCCAAAGTCAAAGACCAATTAAGAGTGAAGGCTTCTCTGCCAGATGCATCCATGGAAAAAGAGTTAATATTTGACGGTGGTTTAGGTTCA  
S L T S K V K D Q L K V S P F L P D A S M E K E L I F D G G L G S

2001 GGGTCTGGGCAAAAGGTAGATCTGATTACTTGGCCATGGAGTGAAGTTCATCAGAGAAGAGCGCGAACCCTGTCCAAGCCGTGGCTTGAAGATGATG  
G S G Q K V D L I T W P W S E T S S E K S A E P L S K P W L E D D

2101 ATTCACTTTTGGCAGCTGAGATTGAAGACAAGAACTAGTTTGTAGTTGACAAAATGGATTCCACAGACCAAAATTAGTAAGCACTCAAAATATGAACATGA  
D S L L P A E I E D K K L V L V D K M D S T D Q I S K H S K Y E H D

2201 TGACAGATCCACACACTTTCCAGAGGAAGAGCCTCTTAGTGGGCTGCTGTGCCCATCTTCGAGATCTGAGCTGAATCTGCGTCTCTAACCTCCCC  
D R S T H F P E E E P L S G P A V P I F A D T A A E S A S L T L P

2301 AAGCACATATCAGAAGTACCTGGTGTGATGATTGCTCAGTTACCAAAGCACCTCTTATACTGACATCTGTAGCAATCTCTGCCTCTACTGATAAATCAG  
K H I S E V P G V D D C S V T K A P L I L T S V A I S A S T D K S

2401 ATCAGGCAGATGCCATCCTAAGGGAGGATATGGAACAAATTAAGTGTGATCTCAACTATGAATGGTTTGAAGTGAAGTTTCAATGGTAAAGCCAGATAT  
D Q A D A I L R E D M E Q I T E S S N Y E W F D S E V S M V K P D M

2501 GCAAACCTTTGTGGAATATATTGCCAGAATCAGAGAGAGTTTGGACAAGAACTCTTCCCTAGAGAAATGTCCAGAGACATATTGGCAAGTACACCACAG  
Q T L W T I L P E S E R V W T R T S S L E K L S R D I L A S T P Q

2601 AGTGCTGACAGGCTCTGGTTATCTGTGACACAGTCTACCAAATGGCTCCAACCACAATCTCCACCTGCTAGAGGATGAAGTAATTATGGGTGTACAGG  
S A D R L W L S V T Q S T K L P P T T I S T L L E D E V I M G V Q

2701 ATATTTCTGTTAGAAGTGGACCGGATAGGCACAGATTACTATCAGCCTGAGCAAGTCCAAGAGCAAAATGGCAAGGTTGGTAGTTATGTGGAATGTCAAC  
D I S L E L D R I G T D Y Y Q P E Q V Q E Q N G K V G S Y V E M S T

2801 AAGTGTTCAGTCCACAGAGATGGTTAGTGTGGCTTGGCCACAGAAGGAGAGATGACTTGAGTTATACCCAGACTTCAGGAGCTTTGGTGGTTTCTTC  
S V H S T E M V S V A W P T E G G D D L S Y T Q T S G A L V V F F

2901 AGCCTCCGAGTGAATAACATGATGTTTTCAGAAGATCTGTTTAAATAAACTCCTTGGAGTATAAAGCCCTGGAGCAAAGATTCTTAGAATTGCTGGTTC  
S L R V T N M M F S E D L F N K N S L E Y K A L E Q R F L E L L V

3001 CCTATCTCCAGTCAAATCTCACGGGGTTCCAGAACTTAGAAATCCTCAACTTCAGAAATGGCAGCATTGTGGTGAACAGTGAATGAAGTTTGCCAATTC  
 P Y L Q S N L T G F Q N L E I L N F R N G S I V V N S R M K F A N S  
 3101 TGTCCCTCCTAACGTCAACAATGCGGTGTACATGATTCTGGAAGACTTTTGTACCACTGCCTACAATACCATGAACTTGGCTATTGATAAATACTCTCTT  
 V P P N V N N A V Y M I L E D F C T T A Y N T M N L A I D K Y S L  
 3201 GATGTGGAATCAGGTGATGAAGCCAACCCTTGCAAGTTTCAGGCCTGTAATGAATTTTCAGAGTGTCTGGTCAACCCCTGGAGTGGAGAAGCAAAGTGCA  
 D V E S G D E A N P C K F Q A C N E F S E C L V N P W S G E A K C  
 3301 GATGCTTCCCTGGATACCTGAGTGTGGAAGAACGGCCCTGTCAGAGTCTCTGTGACCTACAGCCTGACTTCTGCTTGAATGATGGAAGTGTGACATTAT  
 R C F P G Y L S V E E R P C Q S L C D L Q P D F C L N D G K C D I M  
 3401 GCCTGGGCACGGGGCCATTTGTAGGTGCCGGGTGGGTGAGAACTGGTGGTACCGAGGCAAGCACTGTGAGGAATTTGTGTCTGAGCCCGTGATCATAGGC  
 P G H G A I C R C R V G E N W W Y R G K H C E E F V S E P V I I G  
 3501 ATCACTATTGCCTCCGTGGTTGGACTTCTTGTCTATCTTTCTGCTATCATCTACTTCTTCATCAGGACTCTTCAAGCACACCATGACAGGAGTGAAAGAG  
 I T I A S V V G L L V I F S A I I Y F F I R T L Q A H H D R S E R  
 3601 AGAGTCCCTTCAGTGGCTCCAGCAGGCAGCCTGACAGCCTCTCATCTATTGAGAATGCTGTGAAGTACAACCCCGTGTATGAAAGTCACAGGGCTGGATG  
 E S P F S G S S R Q P D S L S S I E N A V K Y N P V Y E S H R A G C  
 3701 TGAGAAGTATGAGGGACCTATCCTCAGCATCCCTTCTACAGCTCTGCTAGCGGAGACGTGATTGGTGGGCTGAGCAGAGAAGAAATCAGACAGATGTAT  
 E K Y E G P Y P Q H P F Y S S A S G D V I G G L S R E E I R Q M Y  
 3801 GAGAGCAGTGAAGTTTCCAGAGAGGAAATTCAAGAGAGAATGAGAGTTTGGAACTGTATGCCAATGATCCTGAGTTTGCAGCTTTTGTGAGAGAGCAAC  
 E S S E L S R E E I Q E R M R V L E L Y A N D P E F A A F V R E Q  
 3901 AAGTGAAGAGGTTTAAACCAAACTCCTGTTCTGAACTGATTAGAAGCCTGGAGAAGATGGAGATTACTTGTACTTATGTCATATAATTAACTGGAT  
 Q V E E V STOP  
 4001 TTTAAACACTGTTGGAAGAAGAGNTTCTATGAAAAAATTAAATATAGGGCACACTGTTTTTTTTTTCAGCTTAAGNTTTCAGAATGTAGTNAGAGATGTW  
 4101 MCATTTTATTCTATAAAGACTGAATGCTGTGTTTAAATAATTGAAACTACGTTAAAAAAA

Fig. 4B

091837-10998

Rat PG10.2	S	I	L	F	P	N	G	V	R	I	C	P	S	D	T	V	A	E	A	V
Human 200	X	A	L	F	P	N	G	V	L	I	X	P	X	E	V					
Monkey 200	X	I	L	F	P	N	G	V	L	I	X	P	D	E	V	X	K	E	I	
Pig 200	X	V	L	F	P	N	G	V	K	I				E	V	X	K	E	I	
Human 150	S	A	F	F	P	T	G	V	K	V	C	P	Q	E	S	M	K	Q	I	L
Monkey 150	X	I	F	F	P	T	G	V	K	V	X	P	Q	E	S	M	K	Q		
Pig 150	X	V	F	F	P	T	G	V	K	V	X	P	Q	E	S	M	K	Q	I	L

Fig. 5